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GEOGRAPHICAL NOTES.

BY

GEO. C. HURLBUT, *Librarian.*

THE FRANKLIN CELEBRATION.—It was on the 18th of May, 1845, that Sir John Franklin's Arctic expedition sailed from Greenhithe, never to return.

The fiftieth anniversary of this event was commemorated on the 20th of May, under the auspices of the Royal Geographical Society, by a visit to Greenwich, where the Franklin relics were inspected, and an evening meeting in the theatre of London University. At this meeting Mr. Clements R. Markham, the president, made an address, in which he reviewed the life and career of Franklin, the character of his officers and men, and the work done by his party, which practically discovered the North-West Passage. He spoke of the search expeditions, and recalled the generous action of Mr. Grinnell and the United States Government.

He was followed by Admiral Sir Leopold McClintock, who dwelt upon the lesson of Franklin's example and the admirable steadiness and discipline of his men, and closed with a reference to Lieut. Schwatka's* search for relics in King William's Land.

Including this, the last of all, the expeditions sent out to ascertain the fate of Franklin numbered 40, and it could have formed no part of Mr. Markham's design to present the list of them in his address. Something, however, he must have said as a tribute to the memory of that *hero of Arctic travel*,† Dr. John Rae, who brought back to England in 1854 the first discovered, and not the least precious, of those Arctic relics now preserved in Greenwich Hospital. To speak of a Franklin celebration is to remember, as Mr. Markham must have remembered, the foremost names on the long roll of the search expeditions, and those, who had not the good fortune to be present at the meeting in the theatre of London University, must regret the insufficiency of the reported proceedings.

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* Lieut. Schwatka belonged, not to the navy, as the *Times* has it, but to the army of the United States.

† Obituary notice of Dr. Rae in the Geographical Journal, Vol. 2, p. 275.

Second Italian Geographical Congress.—This Congress will meet in Rome in the latter part of September, 1895. There will be four Sections: the Scientific, embracing Mathematical Geography, Cartography and Physical Geography; the Economico-Commercial; the Didactic; and the Historical, comprising the History of Geography and of Cartography, and Historical Geography.

Membership is open to all on payment of the fee of Ten Lire to the Comitato Ordinatore, Via del Plebiscito, 102, Rome.

M. J. de Rey-Pailhade, President of the Toulouse Geographical Society, will submit to the Sixth International Geographical Congress the question of the *simultaneous and parallel application of the decimal system to the measurement of time and of angles*, in order to obtain a greater rapidity in calculations with diminution of the chances of error.

The project bears a natural relation to Prof. Penck's proposed map of the world on a scale of $\frac{1}{1000000}$, and it forms the subject of a lucid report to the Toulouse Society by M. de Rey-Pailhade himself.

North American Polar Expedition.—The *Deutsche Rundschau für Geographie und Statistik*, for May, 1895, reports on the authority of a communication received by Prof. E. von Nordenskiöld in Stockholm, that an Arctic expedition is in preparation in North America, under the direction of the *State* Geological Survey, and that the cost of it will be borne by American capitalists, who have furnished for the purpose 500,000 dollars.

The object of the expedition is said to be the exploration of the hitherto unknown archipelago on the northern coast of North America, and, incidentally, of Ellesmere Land, where search has already been made for the lost Björling party. Prof. Dr. Robert Stein, of the Geological Survey, who planned two years ago, but did not succeed in organizing, an exploration of Ellesmere Land and Grinnell Land, has requested the Canadian Arctic traveller Tyrrell to accept the command of the party charged with the search for the members of the Björling expedition.

This report has found its way into the *Scottish Geographical Magazine* for June (p. 315), and it seems proper to say that Mr. Robert Stein has no knowledge of the matter, and that the capitalists, who stand ready to advance half a million dollars, have so far escaped recognition.

To the Pole by Balloon.—Mr. Andrée, a Swedish engineer and skilful aeronaut, who wintered in Spitzbergen in 1882–83, has laid before the Academy of Sciences at Stockholm a plan for reaching the North Pole by balloon, starting from the north-western point of Spitzbergen, where the coast is always free of ice by the middle of June.

Mr. Andrée's project has been carefully studied in all its details, and it meets with the entire approbation of Baron Nordenskiöld.

The balloon will be made to carry three persons, with provisions for four months and all the requisite instruments: the total weight not to exceed 3,000 kilogrammes (6,600 lbs.).

Safety buoys will be taken in the car to guard against accidents, and the double skin of the balloon will keep it inflated for a month at a time. In order to navigate the machine Mr. Andrée will use an apparatus which he has tested in several ascents. The balloon is provided with a sail, and from the car hang cables, which drag on the ground and retard the movement through the air. The sail can by this means be brought into play so as to deflect the progress of the machine twenty-seven degrees, and, in some cases, as much as forty degrees, from the direction of the wind.

The balloon will be inflated with hydrogen compressed in cylinders, and the filling will be accomplished inside of a high board fence.

It is on record that a balloon, set free in Paris on the night of November 25, 1870, arrived in Norway the next morning, and at this rate of speed the Pole would be reached in five or six hours from Spitzbergen.

The daily variation of temperature in the polar regions is very slight. At Spitzbergen, in July, the mercury occasionally falls to zero (Centigrade), and rises only a few degrees above it, and there is no fear of a storm.

Mr. Andrée will make his attempt in 1896.

EXPLORATION OF THE MACKENZIE.—M. C. de Lalande, Consul of France at San Francisco, in a letter of April 5, sends to the Paris Geographical Society, through the Ministry of Foreign Affairs, the manuscript itinerary of M. de Sainville's travels in the Mackenzie River basin in the years 1889–1894, accompanied by 29 photographic views of the country and a map of the route. (*Comptes Rendus de la Société de Géographie, Nos. 9 et 10.*)

MAZAMAS.*—This is the name of a society of mountain climbers, which was organized on the summit of Mount Hood, Oregon, on the 19th of July, 1894. Its organization, we are told, was unique and successful, and this year the society aspires to convey, on the 10th day of July, a sunbeam message by means of heliographs from British Columbia to Mexico, and transmit an answer from Mexico to British Columbia.

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* Apparently the Mexican name (plural) of the pronghorn (antilocapra americana).

The principal mountains in Oregon and Washington available for the purpose are Baker, Rainier, St. Helens, Adams, Hood, Jefferson, Three Sisters, Diamond Peak, Thielsen, Scott and Pitt, and in California Mt. Shasta, Tellac, Round Top, Dana, Lyell, Stillman, Whitney, Lome and Baldy. Sub-stations will be established along the line, and it is expected that each party will make arrangements for procuring photographic views of interesting points.

The main body of the society is to assemble at Mt. Adams, in Washington.

THE CLIMATE OF SAN DIEGO, CALIFORNIA.—The *American Meteorological Journal*, for May, publishes the following data on the climate of San Diego, compiled from the records of the Weather Bureau by Mr. W. L. Hearne, observer:

> For the last 22 years the mean temperature has been: January, 57°; February, 55°; March, 57°; April, 57°; May, 62°; June, 65°; July, 68°; August, 70°; September, 68°; October, 63°; November, 57°; December, 57°.
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> The warmest months were: January, 1877, average 57°; February, 1876, 58°; March, 1885, 60°; April, 1885, 62°; May, 1885, 63°; June, 1885, 67°; July, 1891, 69°; August, 1885, 72°; September, 1889, 70°; October, 1875, 67°; November, 1890, 64°; December, 1890, 61°.
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> The coldest monthly averages were: January, 1892, 50°; February, 1882, 51°; March, 1880, 52°; April, 1872, 56°; May, 1875, 60°; June, 1873, 63°; July, 1880, 63°; August, 1880, 66°; September, 1880, 65°; October, 1886, 60°; November, 1886, 56°; December, 1891, 52°.
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> The greatest precipitation of rain in any month was 7.71 inches, in December, 1887. The greatest rainfall in 24 consecutive hours was 2.94 inches, January 12 and 13, 1892. No killing frost occurred in the twenty-two years. The greatest velocity of the wind was 39 miles an hour, recorded in April, 1877 (day not given).

The same journal, for June, has a paper by John D. Parker on California Electrical Storms, from which the following statements are taken:

> One of the peculiar features of the weather of Southern California is the infrequency of electrical storms. In San Diego people do not protect their buildings against lightning, and the writer has been unable to discover a lightning rod in Los Angeles. The Weather Bureau has reported only two electrical storms at San Diego during the last sixteen years.
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> One of these storms occurred on August 27, 1894, and it may be taken as a type of all electrical storms in this region. On that day there prevailed a close, sultry atmosphere, with a stoppage of the sea-breeze, replaced by fitful currents of hot air from the desert, and a filmy vapor cast a slight veil over the face of the sun. About

midday the observer, at San Diego, from the roof of his building, saw far to the south fifteen or twenty very small thunder-heads, appearing conical above with flat bases. These thunder-heads moved slowly northward along the San Jacinto Mountain range, and arrived opposite San Diego about sunset, where, by the enlargement of the visual angle, they seemed to fill the whole heavens with black masses of cloud. The edge of this Sonora* brushed by San Diego that evening with an electrical display which was quite vivid in the mountains.

This storm brought to San Diego a warm shower of rain, which measured 4 inches. A bolt of lightning struck a wire in the city, and burnt out the coil of one of the dynamos in the engine-house, which extinguished for a brief period the incandescent lights all over the city.

THE BALTIC AND NORTH SEA CANAL.—Vice-Admiral Batsch contributes to *Globus*, for May, an account of the canal just opened between the North Sea and the Baltic, preceded by a historical sketch of the project.

The present canal is in a large measure due to the efforts of the Hamburg ship-owner Dahlström, who advocated it for years before it received the support of Prince Bismarck, and had the route surveyed at his own expense. It runs in a general north-easterly direction, from Brunsbüttel, at the mouth of the Elbe, to Rundsburg, where it joins and incorporates the old Eider Canal, and finds its termination at Holtenau, on the Bay of Kiel.

The act authorizing the construction was passed March 16, 1886, and an Imperial Canal Commission was appointed, with headquarters at Kiel.

A lock is built at each end to control the water-level, the tideless Baltic being five feet below the high-water mark of the lower Elbe; a difference of level which would give rise to currents in the 61 miles of the waterway. The canal has a width of 72 feet at the bottom and nearly 200 feet (60 metres) at the surface, with a depth of nearly 28 feet, and will admit the largest ships. The general level will be that of the harbour of Kiel, and the lock at the eastern end will remain open nearly all the time, there being only 25 days in the year when noticeable fluctuations occur.

The canal shortens the voyage from Kiel to Wilhelmshaven by 238 nautical miles.

Another writer† gives measurements strangely unlike those furnished by Vice-Admiral Batsch. Both make the length of the canal 98.65 kilometres (61.3 miles), and the width at the bottom 72 feet (22 metres), but in the *Deutsche Rundschau* the breadth at the surface is made 65 metres (213.26 feet), and the depth 9 metres (29.53 feet). The engineer or the admiral, or both, must be wrong; it were rash to choose between them.

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* A local term, explained further on, where Mr. Parker says: "The thunder storms of this region are Sonoras, that move northward two or three times a year from Sonora and contiguous regions, where they originate."

† Civil-Engineer Joseph Riedel, in the *Deutsche Rundschau für Geographie und Statistik*, for May, 1895.

That the passage may be left free to war-ships on occasion, waiting-stations for other vessels are established at intervals of 12 kilometres (7½ miles) Each of these stations has a length of 450 metres (1,476 feet), and a width, at the bottom, of 60 metres (197 feet).

The locks at the outlets have a clear breadth, between the gates, of 25 metres (82 feet), and a depth of 9.8 metres (32 feet), and will admit a ship 150 metres (492 feet) in length. The largest German ironclads measure 112 metres (367 feet) long by 22 metres (72 feet) broad, with a draught of 8 metres (26¼ feet). Although the great transatlantic steamers, 192 metres (630 feet) in length, are too large for the locks, they will be able to pass through the canal, for, while the gates on the Baltic are hardly closed during the year, those on the Elbe can be opened for three or four hours at the time of high-water.

Besides the shortening of the voyage from sea to sea, the advantages of the canal are: the development of commercial intercourse between the two coasts, and the saving in life and property by avoiding the dangerous navigation around the Skaw, the northern point of Denmark. The returns show that 35,000 vessels yearly pass through the Sound. In the period 1877–1881, 92 German vessels, with an aggregate tonnage of 20,000, and valued at between 3,000,000 and 4,000,000 marks, were totally lost in the passage, and 69 others went down at points not ascertained, while 708 persons perished. The number of vessels stranded on the Swedish and Danish coasts between 1858 and 1885 was 6,316, and of these 91 steamers and 2,742 sailing vessels were lost.

The yearly average losses by the voyage around the Skaw are 200 ships, with cargoes valued at 10,000,000 marks, and not less than 500 lives. The coast near Agger bears the significant name of the "Ships' Graveyard," or the "Iron Coast."

DR. REINHARD PECK, Curator of the Museum, and for twenty-three years an Honorary Member of the *Naturforschende Gesellschaft*, of Görlitz, died in that city on the 28th of March, at the age of 72 years.

THE LISBON ROYAL ACADEMY OF SCIENCES announces the death of its Secretary, Manoel Pinheiro Chagas, on the 8th of April, 1895.

THE TŌKYŌ SEISMOLOGICAL OBSERVATORY.—This observatory, created and for so many years directed by Mr. John Milne, was destroyed by fire on the 17th of February. The calamity is described by Prof. Milne in a letter prepared, as he says, *for maiden aunts and relatives*, and communicated to *Science* of April 19, by Prof. T. C. Mendenhall, a friend and fellow-worker of Mr. Milne's in Japan, in former years.

The losses are, for the most part, irreparable, and the public, including the maiden aunts, may well be surprised at the buoyant tone of the following account:

> As nearly all the transactions of the Seismological Society were packed up to go to Europe, a few that had middle places in the boxes may be saved, but I doubt if even out of 2,500 copies I shall get more than two or three hundred. All my old earthquake books, some of which even dated from 1500 to 1600, but which were perhaps more curious than useful, seem to have gone. One function they had was to inspire the globe-trotter, or travelling clergyman, with respect for a science that was apparently so ancient. Amongst them there was a poem called "The Earthquake," A. D. 1750, but I know that by heart. The new books were volumes of bound pamphlets in all sorts of languages which I had slashed out of the publications of all sorts of societies. Perhaps the burning of them was a visitation for my Goth-like behaviour.
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> Instruments were fused or vaporized. Sixteen specially constructed clocks which would turn drums once a day, once a week, or drive a band of paper for two years, together with seismographs and horizontal pendulums, self-recording thermometers and barometers, microscopes, and a museum of old and new contrivances are now in the scrap heap. Until to-day, I felt I had the observatory I intended to put up in England completely furnished, and I was proud of the furniture. . . . . . But what happened was the unexpected; the fire broke out in the midst of a pile of wood in an outhouse, and this, with a nice wind blowing, on a Sunday morning, when there was no one near to help. And now I have next to nothing—decorations, medals, diplomas, clothes, manuscripts, extending over twenty-five years, and everything else has gone up in smoke; still it is not altogether a misfortune. I shall not have a sale, nor the worry of selecting amongst my accumulations; there will be no buying boxes and packing up, neither will there be any haggling with custom house officials, or trouble in collecting on an insurance policy. On the other hand, I shall have new clothes, and some time or other, I hope, new clocks and new instruments, whilst what I have got is the knowledge that I have many sincere and kind friends. Their clothes don't fit, but the sympathy that they have expressed and the little things they have sent me tells me that I should never be homeless in Japan. Looked at in the right way, like an earthquake, a fire may, after all, be a blessing in disguise, but, of course, it is sometimes pretty well wrapped up.
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> "Dies iræ, dies illa,
> Solvet sæclum in favilla."

Mr. Milne's address book was burned, and he asks all those to whom Vol. IV of the *Seismological Journal* may be due to address him, care of *The Japan Mail Office*, Yokohama.

Out of the few hundred copies, more or less, of the Transactions of the Seismological Society of Japan, he will be able to make up some sets; and those desiring to obtain them should write to him, care of the Geological Society, Burlington House, London. He earnestly desires to receive, in exchange or otherwise, copies of any papers on or relating to earthquakes, volcanoes or earth movements in general.

Mr. E. von Rebeur-Paschwitz writes from Merseburg to *Nature*, of May 16, concerning some of Prof. Milne's late observations:

> A few days ago I received from Prof. Milne a letter, dated March 15, 1895, in which he sends me a list of earthquake disturbances, compiled from the records he was fortunate enough to rescue from the fire which destroyed his house on February 17. In this list I find no less than three observations of the great Argentine earthquake of October 27, 1894, which was recorded by three different horizontal pendulums. The times given for the beginning of the earthquake—viz., 18 h. 0 m., 18 h. 5 m., 17 h. 41 m.*—are not very trustworthy . . . . . the error cannot exceed a few minutes. The duration of the disturbance was between two and three hours in all the three instruments. If we consider that the error of the first observation is not likely to exceed ten minutes, then we find . . . . that, although the spherical distance between the epicentre of the earthquake and Tokio is *no less than 17,400 kilometres* (10,812 miles), the earth-motion reached Japan at about the same time, or perhaps even a little earlier, than it arrived in Europe . . . . . Prof. Milne's observation is probably the first in which an earthquake was noticed by seismic instruments at a place so near the antipodes of the earthquake centre. A straight line between the two points is only very little shorter than the earth's diameter; the time required for the motion to pass through the globe was probably less than twenty minutes.

The same journal, of May 30, notes the occurrence of an earthquake, recorded at Tōkyō on the 18th of January, 1895, and registered by the seismometrograph of the Collegio Romano at Rome within 50 minutes; the distance being 9,500 kilometres (5,900 miles).

THE LUCHU ISLANDS.†—In a paper printed in the *Geographical Journal*, Vol. V, Nos. 4, 5 and 6, Prof. Basil Hall Chamberlain, of the Imperial University of Japan, describes the Luchu Islands and their people. Little known as they are, these islands possess a complex civilization, an ancient and checkered history, and a language capable of throwing welcome light on Far-Eastern philology. They stretch from the south-western extremity of Japan to the north-eastern extremity of Formosa, the number of islands being 36, divided by Mr. Chamberlain into six groups, as follows:

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* These hours are Japan time, *i. e.*, 9 h. east of Greenwich, and are reckoned from noon.

† The name is written in many ways. Mr. Chamberlain adheres to the forms *Loochoo* or *Luchu*, because they have been most generally employed by English writers and cartographers for nearly a century past.

1. The *North-Eastern*, of four islands. Of these Tane-ga-shima is admirably cultivated and contains a population of 23,000, and Yaku-no-shima, a circular island of 15 miles diameter, is covered with forests, and its mountains rise to a height of over 6,000 feet. Theft is unknown among the 8,800 people of this happy spot;

2. The *North-Western*, of three islands, Iwo-ga-shima, the most important, being rich in sulphur;

3. The *Shichi-to* (Seven Isles *), small and unimportant. Some of these islands are active volcanoes;

4. The *Oshima* group, eight in number. Of this group Oshima, 30 miles long by 17 wide in the broadest part, lies in the way of the *Kuroshiwo*, and has a very moist climate and a luxuriant vegetation. Four of the smaller islands produce considerable sugar;

5. The *Central Group*, or Luchu Proper. This has nine islands. Okinawa, or Great Luchu, is 56 miles long, with a breadth of from 2 to 14 miles. The northern part is rough and thinly peopled, but the central and southern parts are carefully cultivated, and support a dense population. The other islands, except Kume-jima, which is noted for a much-prized silk fabric, are without importance;

6. The *Saki-shima* Group, or Further Isles, contains four considerable islands and a number of islets, all inhabited.

One mountainous island, Iri-omote-jima, is covered with a dense forest. It has a bad climate, and malarial fever is endemic. According to the official census of December 31, 1891, Luchu Proper and the Further Isles contain 82,477 houses, with a population of 410,881. Of the population 95,000 are classified as nobility and gentry, and 235,000 as common people.

Some of the islands are volcanic; others, such as Great Luchu, of coral formation. The Further Isles, though surrounded by coral reefs which make navigation perilous, are in part of volcanic origin.

The cattle and horses are small, as are the deer and the wild pigs. The monkey, so common in Japan, is unknown. A poisonous snake, the *habu*, abounds in Oshima and Toku-no-shima. It is four or five feet long and two inches in diameter. It enters the houses and springs out at passers-by from the hedges, and, within recent years, it so infested one village that the inhabitants abandoned their houses.

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* There are really eight, Mr. Chamberlain says, in spite of the name.

The flora diverges widely from that of Japan. The bamboo is rare; there are several palms, many ferns and tree-ferns, and an enormous number of cycades, which furnish a kind of sago. The cultivated plants are sugar-cane, sweet potatoes, tobacco, indigo, pumpkins and gourds, Indian corn, beans, cereals, radishes and the like. Every suitable spot of land, even to the brink of the sea, is laid out in rice-fields.

Speaking broadly, the winter is the dry season, the late spring and summer the wet one, and the climate is salubrious in most of the islands. All the Luchus are swept by the dreaded typhoons.

Mr. Chamberlain notes the curious fact that in the Japanese archipelago the vegetation diminishes in rankness as one travels from the north to the south. In Yezo the grasses are higher than a man on horseback; in Central Japan they rise to the height of a man, and in Great Luchu there are no tall grasses, and very few thickets.

The history of the islands, as told by Mr. Chamberlain from the study of the records, has little interest. The political arrangements, he remarks, seem to partake of an *opéra comique* character, with public offices and officers almost without end, until we begin to wonder whether there is any population left to govern. None the less, he affirms that there has been progress:

> For the general assertion may safely be hazarded that Oriental stagnation exists only in Occidental fancy.

Perhaps so, in a sense; but there can be no agreement without an accepted definition of terms. What is stagnation and what is fancy? The most prominent race characteristic of the Luchuans is a moral one. They are marked by gentleness of spirit and manner, by a yielding and submissive disposition, by hospitality and kindness, and by aversion to violence and crime. Mr. Chamberlain's experience in 1894 agrees with that of every visitor to the islands except Perry, who, possibly, did not see things as they were.

MANCHURIA.—The Rev. John Ross, D.D., who has known Manchuria for twenty-two years, describes it in an interesting paper, printed in the *Scottish Geographical Magazine*, for May.

The country is a great plain, lying between the port of New-Chwang, on the south, and the Amur River, on the north-east. On the west the plain is bounded by the hills of Mongolia, and on the east by low mountain ranges. The highest mountain of Manchuria is the "Ever White Mountain" in the extreme north-east, so called from the appearance of its upper ridges, which are composed of pumice, and, according to Mr. Younghusband's measurement in 1886, not more than 8,000 feet in altitude.

Earthquakes are rare and slight, but there is every indication that they were severe in remote ages, and the signs of volcanic activity abound. Not far from Ninguta there is an extensive field of lava, which sounds hollow to the tread. The most common rocks are basalt and granite, quartz and quartzite, and a coarse white marble.

The centre of the water-shed is the Ever White Mountain, and from it flow the Usuri, the Sungari, the Yalu, which bears immense rafts of timber, pine, oak and walnut, to New-Chwang, which also receives by the Liao River the vast quantities of grain accumulated every autumn in the north.

The soil of Manchuria seems to be a mixture of two-thirds clay and one-third sand. In winter and in dry weather it cracks in all directions. It is extremely fertile, and produces full crops year after year without manuring.

Baron Richthofen's theory that this soil is formed by dust-storms is not accepted by Mr. Ross, who finds the origin of the *loess* in the disintegration of the granite and the pulverization of the basalt. The process of transformation may be seen on the line of hills skirting the great plain.

There are four and a half months of summer, five of winter, one of spring and one and a half of autumn. The winter ends with March, April is the spring month, and summer begins with May.

The rains are light till the end of July, when they become heavy and long-continued and flood the country. September is the harvest month, and nothing can be finer than the October weather—dry and clear and mildly warm. The winter comes in November; the ice forms three or four feet thick, and the ground is frozen to the same depth. The greatest cold is usually 17 degrees below zero (Fahr.), though it sometimes sinks to 27 at Mukden, and at Kirin to 40 degrees below zero. Even in midwinter the sun is so hot that it is unpleasant to sit against a window with a southern exposure. The greatest heat is 100 degrees in the shade.

The minerals are gold, silver, copper, coal, and excellent iron.

The principal crop is "tall" millet, or *sorghum*, the chief food of the people. It produces eight hundred-fold. The "small" millet, like birdseed, is said to produce ten times as much.

Besides these, the people cultivate barley, wheat, beans, Indian corn, tobacco, opium, indigo, jute, hemp, and the castor-oil plant, kitchen vegetables and many roots. The fruits are grapes, plums, apricots and peaches. Game and fish abound.

The most important industries are those of the furrier and tanner. Mr. Ross thinks that there are probably more furs cured in Mukden than in any other city of the world.

The population can hardly be less than 25,000,000. Mukden, the capital, has 300,000, and there are many large cities and towns and on the great plain villages and hamlets are planted so thickly that one is hardly left behind before another is entered. Mr. Ross found, by making a careful list of the villages within a radius of 3½ miles, a population of 100,000, living wholly by agriculture. A steady stream of immigration from Northern China has poured into Manchuria for two hundred years, and at least three-fourths of the people are pure Chinese, and the Chinese language is universal.

The peasantry live on their own small properties. Food, fuel and clothing are abundant, and the taxation is probably the lightest in the world.

THE MAP OF AFRICA.—Lieut.-Gen. E. F. Chapman, F.R.G.S., makes, in a letter to Mr. Markham, President of the Royal Geographical Society, some excellent suggestions with regard to the mapping of Africa. He recognizes the good work which has been done in South Africa, in Algeria and Tunisia, and in East Africa, and he quotes the following passage from the report of the Surveyor-General, British Bechuanaland, for the year 1890–91:

> From a practical point of view the value of this work can hardly be overrated; in many countries erroneous surveys are one of the most fruitful sources of litigation and waste of money in connection with disputed land boundaries, necessitating very often the enormous expense of subsequent geodetic triangulations and re-surveys of land grants. The Imperial Government has conferred a great boon on this territory by authorizing a geodetic triangulation as the basis of all future survey operations. . . . We are indebted for the great practical advantages we are already reaping from this work, viz., the correct and uniform data supplied to our surveyors, which enables them to do their work in a satisfactory manner, and the great facility and accuracy with which in this office we are enabled to lay down on the map of the country the results of every survey which has been connected with the trigonometrical piles.

In conclusion, he invites the attention of geographical societies and the International Geographical Congress of 1895 to these subjects:

(1.) The advantages to be gained from an economic as well as from a scientific point of view of extending geodetic surveys in the settled portions of Africa.

(2.) The importance, in districts beyond the probable range of geodetic surveys for the next few years, of making surveys of areas rather than of routes; and the advisability of basing such surveys on rapid theodolite triangulations, wherever it is practicable to do so.

(3.) The desirability of collecting a complete record, as regards Africa, of all the positions that have been accurately fixed astronomically in areas that have not been triangulated, and of combining measures for the purpose of determining new positions, taking care that, in the case of all future observations, full data should be published so as to enable the geographical world to appraise them at their proper value.

(4.) The advantages to geodetical science of trigonometrically connecting the triangulation of India with that of Europe by joining it on to the Russian triangulation of Trans-Caucasia.

THE WEBI SHEBELI.—Dr. Donaldson Smith, in a letter addressed to the Royal Geographical Society, under date of December 14, 1894, writes:

> . . . . The river which forms the principal source of the Webi Shebeli, and which I shall call after myself, winds south as it passes in front of Mount Abougassim . . . . A large tributary of the Jub River had carved its way through a hill for one mile, as it curved south-east through a deep canyon. This stream is called the "Web," and the river Smith is called the "Wabi" by the natives; but the names are often confused, so I have named the "Web" River Gillett, and the caves I have marked on my map as the Caves of Wyndlawn.*

Dr. Smith does not profess to have discovered these rivers, and the unusual names which he chooses to bestow upon them can have no significance for other men.

The *Bollettino* of the Italian Geographical Society (Fasc. III and V, 1895) protests against the abuse, in this instance, of the explorer's supposed right, and the *Geographical Journal* remarks that if a European name is to be given to the Webi Shebeli, it is surely that of Haines.†

It may be assumed that the rivers will continue to be known as the Webi Shebeli and the Web, since, if there is no authority to forbid the giving of unnecessary names, there is none to compel the recognition of them, when given.

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* Geographical Journal, Vol. V, No. 2, p. 126.

† . . . . It was Lieutenant Christopher who first reached its lower course in 1843, and who named it after his distinguished superior, Captain Haines of the Indian Navy (Geog. Jour., Vol. V, No. 5, p. 485).

REPORTED DEATH OF E. J. GLAVE.—The following telegram appeared in a New York paper of June 18:

> LONDON, June 17.—E. J. Glave, the explorer, who had just travelled from Zanzibar to the Congo for the hundredth time, died recently at the mission station in Underhill, near Matadi, on the Congo. A memorial was erected a mile from the grave.

Although but 32 years of age, Mr. Glave had done much good work in the exploration of Central Africa. He began his career under Stanley, who says of him:

> Mr. E. J. Glave . . . . is one of those young Englishmen who, in 1883, were sent to me for service on the Congo, by the Chief of the Bureau of the International Association of Brussels. I soon recognized in Mr. Glave those qualities for which I was eagerly searching. . . . He was tall, strong, and of vigorous constitution, with a face marked by earnestness and resolve. . . . I was in need of a chief for a new station that was to be built at Lukolela—a place about three hundred miles above the Pool, and I selected him.
>
> On reaching the locality I pointed out to Mr. Glave the site of the future station, and certainly nothing could be more unpromising and more calculated to damp mere effervescent ardor than the compact area of black forest—raising its tall head two hundred feet above the bank—and shadowing so darkly the river's margin—but Mr. Glave regarded it with interest, and a smile of content, and accepted the responsibilities then and there entrusted to him with a pleasure not to be suppressed. We landed and made fast . . . turned to and commenced to chop the forest giants down . . . I was absent for a few months up river. . . . . But when I came opposite Lukolela Woods I curiously examined the extent of tree-clad bank, and long before we came to the landing-place we found that the clearing had been vastly increased, and a large sunny area was revealed, and a commodious house flanked by rows of neat huts was approaching completion. . . . . I always regarded Mr. Glave as one who in the future would probably surpass his opportunities. . . . His conscientiousness, his inflexible determination to do the most that can be done in a given period, the love with which he sets about it, and the absorbing interest it has for him, make me, who knew his worth, feel sorry that he cannot find the peculiar hard task for which he is so fitted. . . . . . (Introduction to *In Savage Africa*, by E. J. Glave, New York, 1892.)

The qualities of the youth remained with the man, and all who knew Mr. Glave felt an attachment to him. With all his strength of character he was modest and gentle, and he exercised a remarkable influence over the wild men with whom he lived, whether in Africa or in Alaska. It was his hope to do effective work in breaking up the African slave-trade, though he made no profession of the task to which he had devoted himself in singleness of heart.

His untimely death frustrates a worthy ambition.

THE ROYAL GEOGRAPHICAL SOCIETY OF VICTORIA held an open-air session at Mr. J. W. Lindt's Hermitage on the Black Spur, near Marysville, on the 9th of March, in honour of its president, Baron Ferdinand von Mueller. The Hermitage stands in the middle of a primeval forest, above the valley of the Acheron; a name hardly suggestive of picnics.

A paper by Mr. Lindt described his adventures in an open whaleboat among the islands of the New Hebrides group. The Rev. W. Potter advocated the cause of Antarctic exploration. Baron von Mueller returned thanks for the compliment paid to him, and called attention to the fact that the geographical map of Australia, which, it had been expected, would be completed before the expiration of the present century, was not yet begun; but he still hoped.